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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,050	02/28/2002	Nobuhiko Hayashi	57810-033	6460

7590 04/11/2003

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Washington, DC 20005-3096

EXAMINER
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LE, DUNG ANH

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/084,050	Applicant(s) HAYASHI ET AL.	
	Examiner DUNG A LE	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 12-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-3 and 5-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

DETAILED ACTION

**Priority**

Acknowledge is made of applicants' claim for foreign priority base on an application JP2001-56284 filed in Japan on 3/1/2001.

It is noted that Applicants have filled a certified copy of said application as required by U.S.C 119, which papers have been placed of record in the file.

***Oath/Declaration***

The oath/declaration filed on 2/28/2002 is acceptable.

***Election/Restriction***

Examiner confirms that Applicants elected to prosecute Claims 1-6 and have withdrawn Claims 7- 28 without prejudice based on response to restrictions on 11/26/2002 on Paper No. 6 and 2/24/2003 on Paper No. 8.

Applicants have the right to file a divisional, continuation or continuation-in-part application covering the subject matter of the non-elected claims 7-28.

*Information Disclosure Statement*

This office acknowledges of the following items from the Applicant:

Information Disclosure Statement (IDS) filed on 2/28/2002 and made of record as Paper No.3. The references cited on the PTOL 1449 form have been considered.

*Specification*

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Rejections*

*Claim Rejections - 35 USC § 112*

Claim 1 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant(s) is reminded that the presence of process limitations on product claims, which product does not otherwise patentability distinguish over prior, cannot impart patentability to the product. In re Stepens 145 USPQ 656 (CCPA 1965). The process step in claim 1, "while forming a void on recess portion of mask layer" has not been given patentably weight.

The remaining claims are dependent from the above rejected claims and therefore also considered indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1 is rejected under 35 USC 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) obvious over Sugiura et al. (6015979, see IDS).**

Sugiura et al. teach, in fig.7 or 12, nitride-based semiconductor element comprising:

a mask layer 31 or 102 , having a recess portion 31a or (col 20, lines 12-22 and figs. 13A- 13B) on an upper surface of mask layer 31 or 102, formed on a substantially flat upper surface of an underlayer 30 or 101 to partially expose upper surface of underlayer 30 or 102;

a nitride-based semiconductor layer 32/33 or 102 formed on exposed part of underlayer 30 or 102 and mask layer 31 or 102; and

a nitride-based semiconductor element layer (35-41) or (104- 115), formed on nitride-based semiconductor layer, having an element region (fig. 7 or 12).

Sugiura et al. do not teach “while forming a void on recess portion of mask layer”. However, the limitation “while forming a void on recess portion of mask layer” is taken to be a product by process limitation and consider non-limitation. In a product-by-process claim, it is the patentability of the claimed product and not of the recited process steps which must be established. Therefore, when the prior art discloses a product which reasonably appears to be identical with or only slightly different than the product claimed in a product-by process claim, a rejection based on sections 102 or 103 is fair. The Patent Office is not equipped to manufacture products by a myriad of processes put before it and then obtain prior art product and make physical comparisons therewith. In re Brown, 173 USPQ 685 (CCPA 1972). Also, a product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 1 S at 17 (footnote 3). See In re Fessman, 180 USPQ 324, 326 (CCPA 1974); In re Marosi et al., 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a "product by process" claim, and not the patentability of the process. See also MPEP 2113.

Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not.

### **Reasons for Indication of Allowable Subject Matter**

Claims 2, 3, 4, 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Sugiura et al. (U.S. Patent No. 6015979) and The Background of the Invention , taken individually or in combination, do not teach the claimed invention having (Regarding claim 2), recess portion of said mask layer includes a dent provided on at least part of upper surface of mask layer, (Regarding claim 3) recess portion of said mask layer includes a concavely curved upper surface of mask layer and (Regarding claim 6) underlayer includes a substrate, and mask layer is formed to be in contact with the upper surface of substrate.

If Applicants are aware of better art than that which has been cited, they are required to call such to attention of the examiner.

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung A. Le whose telephone number is 703-306-5797. The examiner can normally be reached on Monday-Friday 8:00am-5: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 703-308-4910. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Dung A. Le  
Examiner

